

What Is Claimed Is:

1. A sensor element constructed in layers, for detecting a physical property of a gas or a liquid, in particular for detecting the concentration of a gas component or the temperature of an exhaust gas of an internal combustion engine, having a first and a second layer (21, 22) and having at least one contact face (30),
5 wherein the contact face (30) is disposed in a layer plane between the first and second layers (21, 22); and the first layer (21) includes a recess (40, 41, 42) in the region of the contact face (30).
- 10 2. The sensor element as recited in Claim 1, wherein the first and second layers (21, 22) are ceramic substrate layers, whose thickness is in the range from 0.05 to 1 mm.
- 15 3. The sensor element as recited in Claim 1 or 2, wherein the recess (40, 41) extends in the region of the contact face (30) over the entire width of the sensor element (10).
- 20 4. The sensor element as recited in Claim 1 or 2, wherein the recess (42) is shaped in slotlike form.
- 25 5. The sensor element as recited in Claim 4, wherein the slotlike-shaped recess (42) widens toward the outer face of the sensor element (10).
- 30 6. The sensor element as recited in one of the preceding claims, wherein the contact face (30) is electrically connected to an electrical element, in particular an electrode or a heating element, via a conductor track (31); and the electrical element and the conductor track (31) are disposed inside the sensor element (10).

7. The sensor element as recited in Claim 6,
wherein for electrical insulation, a first insulation layer
(35) between the conductor track (31) and the first layer (21)
and a second insulation layer (36) between the conductor track
5 (31) and the second layer (22) are provided; the second
insulation layer (36) is also provided between the contact
face (30) and the second layer (22); and the first insulation
layer (35) includes a recess in the region of the contact face
(30).

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8. The sensor element as recited in one of the preceding
claims,
wherein the contact face (30) is electrically connected to a
contact part, so that the electrical element, via the
15 conductor track (31), the contact face (30), and the contact
part, is connected to an electrical wiring located outside the
sensor element (10).

9. The sensor element as recited in one of the preceding
20 claims,
wherein the sensor element (10) includes both a third layer
(23) and a further contact face, and the further contact face
is disposed in the layer plane between the second and third
layers; and the third layer (23), in the region of the further
25 contact face, likewise includes a recess (41).

10. The sensor element as recited in one of the preceding
claims,
wherein the first layer (21) forms an outer layer of the
30 sensor element (10).

11. The sensor element as recited in one of Claims 1 through
9,
wherein the sensor element (10), on the side of the first
35 layer (21) remote from the contact face (30), includes at
least one further layer; and the recess (40, 41, 42) is also
provided in the further layer.

12. A method for producing a sensor element as recited in one of the preceding claims,

wherein the recess is made in the green body of the ceramic sheet by being stamped out, by drilling, or by milling.